Kentucky
CABINET FOR HEALTH SERVICES
DEPARTMENT FOR PUBLIC HEALTH
DIVISION OF EPIDEMIOLOGY
& HEALTH PLANNING
# Epidemiologic Notes & Reports

Volume 34 Number 8 August-September 1999

Vaccines Can Be a Life Preserver for People With Diabetes

Linda Leber, RN, CDE

Diabetes is a serious public health problem that affects approximately 16 million people in the United States and approximately 222,241 Kentuckians. An influenza vaccination and a pneumococcal vaccine can reduce substantially the risk of dying with flu and pneumonia for people with diabetes, according to the Centers for Disease Control and Prevention (CDC). People with diabetes are about three times more likely to die with complications of influenza and pneumonia than people without diabetes. During flu epidemics, deaths among people with diabetes increase 5 to 15 percent and those with diabetes are six times more likely to be hospitalized with influenza. The risk of hospitalization increases when additional risk factors exist, such as the presence of cardiovascular disease, renal disease and being more than 65 years old, which is the case for many people with diabetes. Despite this, nationally, only half of people with diabetes get an annual flu vaccination, and only a third had received pneumococcal vaccine in 1997. In Kentucky, data from the 1996-98 Kentucky Behavioral Risk Factor Surveillance System (BRFSS) indicate that:

- only 24% of people with diabetes in Kentucky reported receiving an annual flu shot, and only 14% reported receiving a pneumococcal shot;
- among seniors with diabetes, 35% reported receiving flu vaccine, and 20% reported receiving pneumococcal vaccine;
- among African Americans with diabetes, 19% reported receiving flu vaccine, and 12% reported receiving pneumococcal vaccine.

Much of the health and economic burden of diabetes can be averted through known prevention measures. Health care professionals are a vital link in assuring that individuals with diabetes access vaccination as a simple, inexpensive preventive measure that can reduce sickness, hospitalization, and death. To address this issue, the CDC is launching a national campaign that focuses on increasing the proportion of people with diabetes who receive appropriate pneumococcal vaccine as well as an annual influenza vaccination. The campaign slogan is "A flu shot can be a life preserver for people with diabetes." Kentucky is a participating partner in this effort. For more information about the CDC campaign, or to obtain free brochures, posters, or patient reminder cards with the flu campaign message, contact Theresa Renn at (502) 564-7996.

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Reference

CDC. Diabetes Media Campaign Guide To Working With The Media. Atlanta, GA. US Dept of Health & Human Services, Public Health Service; August 1999: 18-20.

FLU VACCINE TIME AGAIN

Shirley Herald, RN

Every year we are reminded to take our flu vaccine shot again. Often we ask why again? Last years flu vaccine is not the same vaccine as this year. Each year the influenza virus goes through biochemical changes called genetic "drift" and shift". The virus puts on a new protein coat that allows it to elude last year's antibodies. A "drift" is not a total change and your old shot may allow some protection, where as a "shift" is totally different and there will be no protection from the vaccine received last year. This is why flu vaccines must be given every year.

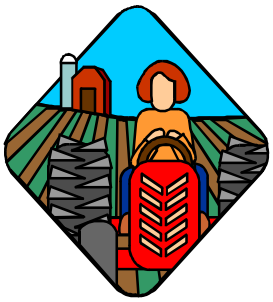
Who is at risk? The high-risk groups are:

- Persons aged 65 years and older;
- Residents of nursing homes, chronic-care facilities that house persons of any age who have chronic medical conditions;
- Adults and children who have chronic disorders of the pulmonary or cardiovascular systems, including asthma;
- Adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus, renal dysfunction, hemoglobinopathies, or immunosupression caused by medication);
- Children and teenagers (age 6 months to 18 years) who are receiving long-term aspirin therapy and therefore might be at risk for developing Reye syndrome after influenza; and
- Women who will be in the second or third trimester of pregnancy during the influenza season.

If you have programmatic or vaccine questions, please call Shirley Herald at 502-564-4478. For surveillance or pandemic planning related questions, call Peggy Dixon at 502-564-3261.

Deaths Among Children Aged Less Than or Equal to 5 Years from Farm Machinery Runovers

Reprinted from MMWR July 23, 1999/ 48(28); 605-608



Deaths Among Children Aged Less Than or Equal to 5 Years from Farm Machinery Runovers -- Iowa, Kentucky, and Wisconsin, 1995-1998, and United States, 1990-1995

Children who reside on family farms are exposed to unique hazards. Young children may be present where work is being done and may wander into areas where machines are operating or may be passengers on these machines. This report describes four fatal incidents in Iowa, Kentucky, and Wisconsin in which young children were run over by farm machinery, summarizes national mortality data to characterize this problem, and provides recommendations for expanded prevention efforts.

Case information was collected and reported to CDC's National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research (DSR), by state health departments in Iowa, Kentucky, and Wisconsin. Data were obtained through on-site investigations, telephone interviews, official law and medical examiners' reports, and news reports.*

Case Reports

Case 1. In July 1998, a 5-year-old boy in Wisconsin and his two brothers, aged 8 and 12 years, were riding in the front bucket of a skid-steer loader (a compact loader that is steered by skidding the wheels) operated by their 9-year-old brother. The loader hit a bump, causing the 5-year-old to lose his balance and fall out of the bucket. He was run over by the loader and died instantly from massive head trauma. His brothers remained in the bucket and were not injured.

Case 2. In April 1998, a 1-year-old girl in Kentucky was run over by a farm tractor driven by her father, who was spreading mulch around trees lining a farm road. He drove the tractor along the road, stopping every few feet to apply mulch. In the late afternoon, he took a break with his wife and three children who had come to visit with him. As he prepared to resume work, his wife and children walked to a nearby creek. He saw his wife and two of the children and, assuming the third child was also with his wife, he engaged the tractor. His daughter was run over by the right rear tractor tire and died instantly from blunt impact to the head, trunk, and extremities and crushing head injuries.

Case 3. In May 1997, a 2-year-old girl in Iowa was killed on the family hog farm when she was run over by a tractor driven by her father. As the father was loading hogs into a livestock trailer attached to the tractor, his wife was assisting and the child was playing nearby. When he drove the tractor forward, the right front wheel ran over the child's lower torso. The child remained conscious and crying after the incident and was airlifted to a regional children's hospital where she died 4 hours after the incident from internal bleeding.

Case 4. In October 1995, a 4-year-old boy in Kentucky died after being run over by a tractor driven by his 10-year-old uncle. Five children, aged 4-12 years, were taking turns driving the tractor in the field. The 10-year-old occupied the driver's seat. The other children sat on two flat fenders, two on each side. The victim was held by an 8-year-old girl. The tractor hit a bump on the dirt farm road, and the victim fell beneath the rear tractor tire. The child sustained a skull fracture and died at the scene.

National Mortality Data, 1990-1995

Following receipt of these reports, DSR reviewed CDC's National Center for Health Statistics (NCHS) mortality data for 1990-1995 and identified 167 deaths among children aged less than or equal to 5 years caused by agricultural machinery (International Classification of Diseases, Ninth Revision code E919.0**). These data included all farm machinery-related cases, but excluded agricultural machines using public roadways (NIOSH, unpublished data, 1998). The average age of decedents was 3 years (range: 4 months-5 years); 73% were male. Approximately half the deaths occurred from April through July, with the largest proportions occurring in April (16.2%), June (12.6%), and July (12.6%); 27% occurred from August through October. One third (33%) of deaths occurred in hospital emergency departments, and 19% of the children died at the scene.

Reported by: SH Pollack, MD, Univ of Kentucky depts of Pediatrics and Preventive Medicine and Kentucky Injury Prevention and Research Center; TW Struttmann, MSPH, Kentucky Injury Prevention and Research Center and Southeast Center for Agricultural Health and Injury Prevention, Lexington. C Zwerling, MD, R Rautiainen, MScAgr, J Lundell, MA, W Johnson, MD, L Etre, PhD, Dept of Occupational Medicine and Environmental Health, Univ of Iowa, Iowa City. LP Hanrahan, PhD, J Tierney, Wisconsin Dept of Health and Family Svcs. Div of Safety Research, National Institute for Occupational Safety and Health; Div of Unintentional Injury Prevention, National Center for Injury Prevention and Control, CDC.

Editorial Note:

From 1979-1981 to 1991-1993, the rate of farm-related fatalities for persons aged less than 20 years decreased by 39%, but the rate for children aged less than 5 years declined

Deaths Among Children Aged Less Than or Equal to 5 Years from Farm Machinery Runovers

29% (1).

During 1991-1993 in the United States, machinery was involved in 36% of farming-related fatalities of children aged less than 5 years (1). An earlier study of U.S. agricultural equipment fatalities indicated that the rate for fatal tractor runovers of farm residents was highest among children aged less than 5 years (2), and during 1979-1985, a study of farm-related deaths among children aged 1-9 years in Wisconsin and Illinois indicated that moving machinery was the most common source of injury (63% and 53%, respectively) (3).

Machine runover fatalities among children aged 1-4 years often were associated with playing near machinery, and runover fatalities in children aged 5-9 years often were associated with falling from and being run over by machinery (3). Peaks in un-intentional farm-related childhood injury deaths from all causes occur at age 2 years and ages 13-15 years (4); fatalities among very young children are related to accompanying their parents as they perform their work duties, and fatalities among older children are related to the children's increased time spent working on the farm. Most fatalities occurred in the spring and fall (i.e., times of planting and harvesting), when parents are busy with farm work and may have less time to supervise children (1,3,4). Prevention efforts can be improved to reduce and eliminate childhood fatalities caused by agricultural machines. Pediatricians, family practitioners, and health departments providing health care to farm families and agricultural safety specialists, farm machinery manufacturers, and organizations serving farm families should warn parents that young children are at high risk for runover by farm machinery and encourage parents to make changes that will make their farms safer.

The following recommendations to parents for child safety on farms are summarized from the National Safety Council (NSC) recommendations (5):

Design a fenced, safe play area that is near the house and away from work activities.

Inspect the farm on a regular basis for potential hazards, and correct such hazards immediately.

Equip all barns and the farm shop with latches that can be locked or secured so children cannot enter.

Always lower hydraulics, turn off agricultural machines, and remove ignition keys before leaving machines unattended.

Never carry children on tractors or permit them into areas where agricultural machines are used or stored, and never allow additional riders, especially children, on any agricultural machinery.

In addition, NIOSH encourages parents to

Ensure that agricultural machines are in safe operating condition.

Carefully inspect the area around the machines before use to make sure no children are present.

After any work interruption (e.g., lunch with the family), clarify who is to supervise children and confirm their location before work is resumed.

Restrict operation of machinery to older adolescents and adults who possess the knowledge, skills, and physical capacity necessary for safe operation of these machines.

Additional information about child safety and farm equipment is available from the National Children's Center for Rural and Agricultural Health and Safety, telephone (888) 924-7233 or (715) 389-4999, and on the World-Wide Web*** at http:// research.marshfieldclinic.org/children; NSC, (800) 621-7615 (extension 2087) or (630) 775-2023, or at http://www.nsc.org/farmsafe.htm; Farm Safety 4 Just Kids, (800) 423-5437 or (515) 758-2827, or at http://www.fs4jk.org; NIOSH, (800) 356-4674 or http://www.cdc.gov/niosh/homepage.html; or NIOSH Centers for Agricultural Disease and Injury Research, Education, and Prevention, (304) 285-5711.

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National Safety Council. 1997/1998 seasonal planning guide. Chicago, Illinois: National Safety Council, 1998.

* Information was collected using the NIOSH Fatality Assessment and Control Evaluation model, which evaluates the relations among agent, host, and environment during pre-event, event, and postevent phases of work-related fatalities. Cases in Kentucky were collected in collaboration with a NIOSH-sponsored Community Partners for Healthy Farming cooperative agreement.

** In addition to tractors, agricultural machinery includes animal-powered agricultural machines, combines, derricks (hay), harvesters, hay mowers or rakes, reapers, threshers, and farm machinery not otherwise specified.

*** References to sites of nonfederal organizations on the World-Wide Web are provided as a service to MMWR readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of pages found at these sites.

Commissioner Conference On Public Health Information a Success

By Tricia Williams, MPA

Thanks to all of you who participated in The Commissioner's Conference on Public Health Information held August 12-13, 1999, at the Executive Inn West in Louisville. We have heard an abundance of positive feedback regarding the conference from the participants, panelists, and planners.

The main goal of the conference was to launch our thinking about public health information, and its dissemination in a new direction. The conference had three objectives: to educate, to identify and organize stakeholders, and to launch a strategic planning effort for public health information. The day and a half was intense but well worth the effort. By gathering stakeholders together for this event, the necessary groundwork was laid for further developing a strategic plan. Participants included those representing both public and private organizations and a variety of disciplines.

The buzzword for the conference was "informatics". We can think of informatics as the systematic application of information and computer science and technology to public health practice, research, and learning. We were fortunate to have such knowledgeable speakers to help us develop and organize our thoughts about this topic. During the plenary sessions on Thursday morning, Dr. Claude Fox from HRSA discussed the core functions and information requirements of public health, and Dr. Patrick O'Carroll (CDC) presented "Bridging the Gap between Public Health and Information Technology: Public Health Informatics". Public health informatics infrastructure was discussed by Dr. William Yasnoff (CDC). All plenary speakers are experts in the field of health information. During the luncheon session Aldona Valacenti, Kentucky's Chief Information Officer, gave us her views and direction for the state. Also, we were presented with some excellent examples of how others are using the concept of informatics and a very powerful tool, the Internet, to change how they do business. New York, Washington, and Missouri are forerunners in the way they collect, share, analyze, and disseminate information using the web. For more information on these innovations, see their websites at:

New York - www.health.state.ny.us/
Washington - www.chita.org
Missouri - www.health.state.mo.us/GLRequest/profile.html

On day two, breakout sessions were held on changing business models, making data comparable, protecting privacy and security, and identifying units of interest. Speakers for these sessions were fascinating as well as informative. Many innovative ideas were presented that will greatly assist in formulating an informatics strategic plan for the Kentucky Public Health System.

Public Health Training Network Satellite Broadcast "Surveillance of Vaccine-Preventable Diseases" December 2, 1999 12:00 Noon- 3:30 PM ET

This live, interactive satellite broadcast will provide guidelines for vaccine-preventable disease (VPD) surveillance, case investigation and outbreak control.

Goal: To enhance the surveillance of vaccine-preventable diseases (VPDs).

Objectives: Provide training for surveillance of VPDs, including diphtheria, *Haemophilus influenzae* type b (HIB), hepatitis A, influenza, measles, pertussis, rubella, and varicella.

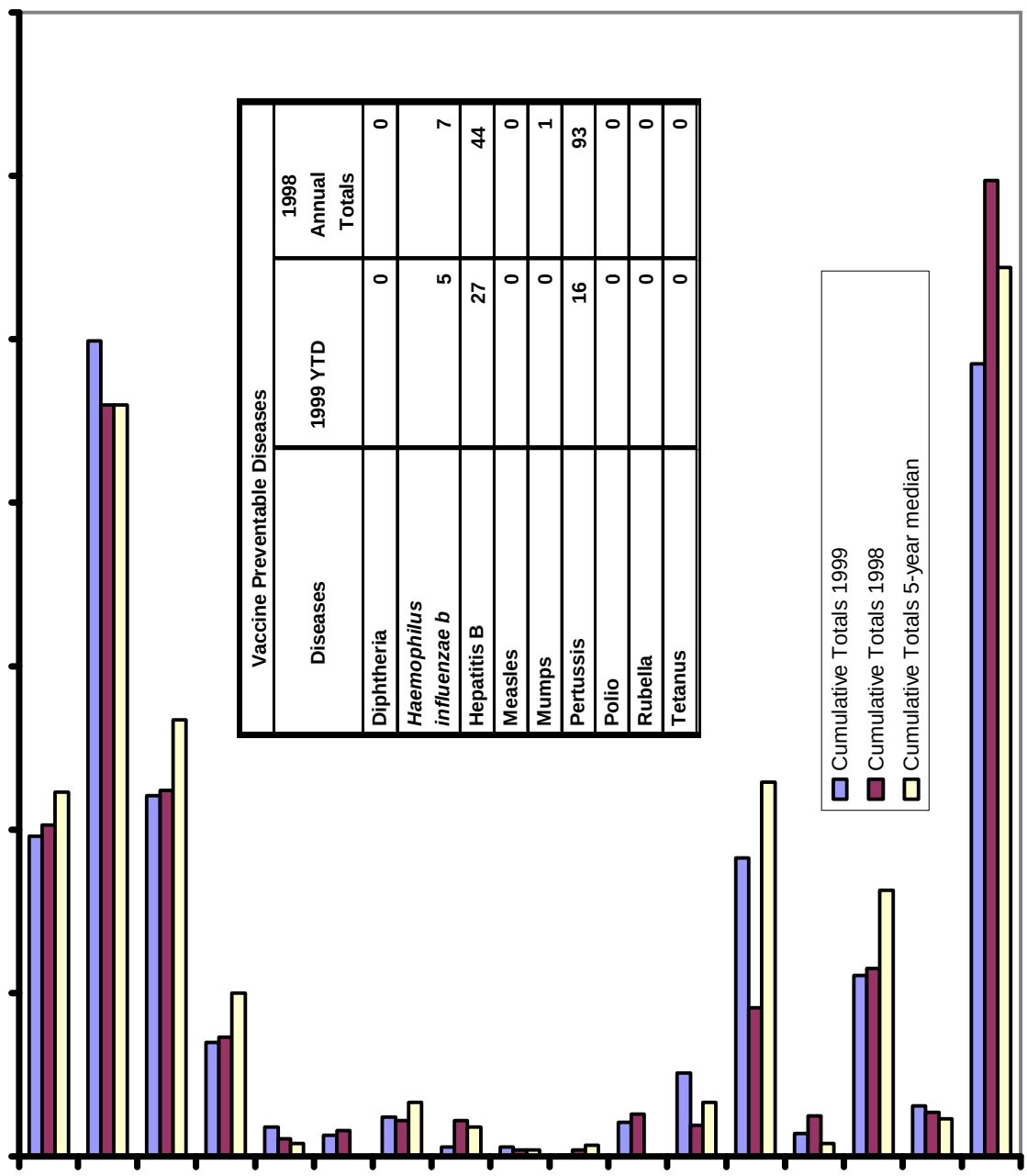
Target Audience: Physicians, infection control practitioners, nurses, epidemiologists, laboratorians, sanitarians, disease reporters, and others who are involved in surveillance and reporting of VPDs.

Continuing Education Credit: CEUs will be offered for a variety of professions, based on 3.5 hours of instruction.

Faculty: William L. Atkinson, MD, MPH, Medical Epidemiologist, National Immunization Program (NIP), Centers for Disease Control and Prevention (CDC), and Melinda Wharton, MD, Chief, Child Vaccine-Preventable Diseases Branch, NIP, CDC.

Registration and Viewing Instructions: Contact the Immunization Program at (502) 564-4478 for information about this program, viewing information and related materials.

CASES OF SELECTED REPORTABLE DISEASES IN KENTUCKY, YEAR TO DATE (YTD) THROUGH AUGUST 1999



Vaccine Preventable Diseases		
Diseases	**1999 YTD**	**1998 Annual Totals**
Diphtheria	**0**	**0**
Haemophilus influenzae b	**5**	**7**
Hepatitis B	**27**	**44**
Measles	**0**	**0**
Mumps	**0**	**1**
Pertussis	**16**	**93**
Polio	**0**	**0**
Rubella	**0**	**0**
Tetanus	**0**	**0**

*Historical data are not available.
**Rocky Mountain Spotted Fever
Disease numbers reflect only those cases which meet the CDC surveillance definition.

KENTUCKY EPIDEMIOLOGIC NOTES & REPORTS
Printed With State Funds
by the
COMMONWEALTH OF KENTUCKY
CABINET FOR HEALTH SERVICES
DEPARTMENT FOR PUBLIC HEALTH
275 EAST MAIN STREET
FRANKFORT, KENTUCKY 40621

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Epidemiologic Notes and Reports Change in Editors

Epidemiologic Notes and Reports is changing editorial staff beginning with this edition. Barbara Sonnen, RN, MS, the editor for the last two years, has retired. Her dedication to the publication will be missed, and we hope she enjoys her new career as a retiree. Nancy Yates has been the managing editor for the last 13 years and is changing job duties. Her skills have taken the publication process through the transition from typewriter to word processor to desktop publisher. We will rely on her experience and advice as a consultant to the new editors.

The acting editor is Michael Auslander, DVM, MSPH, Assistant Director, Division of Epidemiology and Health Planning. The new managing editor is Beverly Bevill. Ms. Bevill began these new duties last month and is the glue that will hold *Notes* together during the editorial transition period. Please contact Ms. Bevill, (502)564-2757, beverly.bevill@mail.state.ky.us, or Dr. Auslander, (502)564-3418, mike.auslander@mail.state.ky.us, if you have any suggestions for improving the quality of our publication.

1997 County Health Profiles

The *1997 County Health Profiles* are available upon request to the Surveillance and Health Data Branch by calling 502-564-2757 or by mailing the request to 275 East Main Street, Frankfort, KY 40621.